	Application No.	Applicant(s)
Office Action Summary	10/597,061	PICARD, YANN
	Examiner	Art Unit	
	SHAWN AN	2483	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _22 March 2011_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-8,13,14 and 16_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-6,8,13,14 and 16_ is/are rejected.

7)☒ Claim(s) _7_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _3/22/2011_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Restriction/Election

1.   Applicant's election without traverse of the Group I corresponding to claims 1-8, 13-14, and 16 in the reply filed on 3/22/11 has been acknowledged.

The requirement is now deemed proper and is therefore made FINAL.

Response to Amendment

2.   As per Applicant's instruction as filed on 3/22/11, claims 9-12 and 15 have been canceled.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to <u>non-statutory</u> subject matter.

Claim 13 comprises both statutory and non-statutory subject matter, since the Applicant claims "A computer program product for a data processing unit, comprising a set of instructions, which, when loaded into said data processing unit, causes ...,".

The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and <u>transitory propagating signals</u> *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. *See* MPEP 2111.01.

Claim 13 is rejected under 35 U.S.C. § 101 as covering non-statutory subject matter, since the broadest reasonable interpretation of a claim covers <u>a signal</u> *per se*. *See In re Nuijten,* 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are

not directed to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under* 35 U.S.C. § *101,* Aug. 24, 2009; p. 2.

      The USPTO recognizes that applicants may have claims directed to computer readable media that cover signals *per se,* which the USPTO must reject under 35 U.S.C. § 101 as covering both non-statutory subject matter and statutory subject matter.

      In an effort to assist the patent community in overcoming a rejection or potential rejection under 35 U.S.C. § 101 in this situation, the USPTO suggests the following approach. <u>A claim drawn to such a computer readable medium that covers both transitory and non-transitory embodiments may be amended to narrow the claim to cover only statutory embodiments to avoid a rejection under 35 U.S.C. § 101 by adding the limitation "non-transitory" to the claim</u>. *Cf Animals* - *Patentability,* 1077 *Off. Gaz. Pat. Office* 24 (April 21, 1987). For example, "A <u>non-transitory</u> computer program product for a data processing unit, comprising a set of instructions ...,".

      Such an amendment would typically not raise the issue of new matter, even when the specification is silent because the broadest reasonable interpretation relies on the ordinary and customary meaning that includes signals *per se.* The limited situations in which such an amendment could raise issues of new matter occur, for example, when the specification does not support a non-transitory embodiment because a signal *per se* is the only viable embodiment such that the amended claim is impermissibly broadened beyond the supporting disclosure. *See,e.g., Gentry Gallery, Inc.* v. *Berkline Corp.,* 134F.3d 1473 (Fed. Cir. 1998).

      Therefore, a correction will be required in order to make the claim 13 comprise only the <u>statutory</u> subject matter.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-6, 8, 13-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (5,598,215) in view of Lainema et al (6,711,209 B1).

Regarding claims 1 and 14, Watanabe discloses a device/method for compressing video information in a video sequence comprising:

means for segmenting the first video frame containing image data into segments (figs. 3 and 10);

means for searching, in a second video frame following the first video frame in the video sequence, a corresponding predicted segment which matches with the segment of the first video frame according to a predetermined similarity measure, for each segment of the first video frame, and means for searching, in the first video frame, a corresponding segment that matches with the predicted segment of the second video frame according to a predetermined similarity measure, for each corresponding predicted segment of the second video frame (figs. 1 and 6-8, element 10; figs. 3 and 10; col. 6, lines 29-63);

means for calculating a raw set of motion parameters describing the motion between the segment of the first video frame and the corresponding predicted segment of the second video frame, for each segment of the first video frame (abs.; fig. 5A, 2nd block; figs. 1 and 6-8, element 10);

Watanabe does not seem to particularly disclose means for calculating a best set of motion parameters describing the motion between the corresponding segment of the first video frame and the predicted segment of the second video frame, said best set of motion parameters consisting in the raw set of motion parameters corrected by a motion parameter correction, for each corresponding predicted segment of the second video frame.

However, Lainema et al teaches calculating a best (final) set of motion parameters describing the motion between the corresponding segment of a first video frame and a predicted segment of a second video frame, wherein the best set of motion

parameters consisting in a plurality of sets of motion parameters are chosen by a set of motion parameter that is the one minimizing the cost function for each corresponding segment, thereby reducing amount of motion information that needs to be sent to the decoder while causing minimal deterioration in the quality of a decoded image (abs.; col. 5, lines 9-28; col. 3, lines 63-67).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a device/method for compressing video information in a video sequence as taught by Watanabe to incorporate/combine Lainema et al's teaching as above so as to calculate a best set of motion parameters describing the motion between the corresponding segment of the first video frame and the predicted segment of the second video frame, wherein the best set of motion parameters consisting in the raw set of motion parameters are corrected by a motion parameter correction/selection, for each corresponding predicted segment of the second video frame, thereby reducing amount of motion information that needs to be sent to the decoder while causing minimal deterioration in the quality of a decoded image.

Regarding claim 2, Watanabe discloses calculating a residual frame (1) for the second video frame describing the structural differences between the first video frame and the second video flame (figs. 1 and 6-8, element 1).

Regarding claims 3-4, Watanabe discloses calculating a set of overlapping parameters for each predicted segment resolving the intersections between said predicted segment and adjacent other predicted segments of the second video frame

Regarding claim 5, Watanabe discloses the first video frame being a decompressed video flame (elements 4 and 5) corresponding to a flame of the video sequence processed by the compression method and the corresponding decompression method (figs. 1-2 and 6-8).

Regarding claim 6, considering combination of Watanabe and Lainema et al's teachings as above, it would be have been considered obvious to characterized that Lainema et al's best set of motion parameters could be defined according to a multi-layer motion description, in which a first layer contains Watanabe's raw set of motion

parameters and a second layer contains the motion parameters correction/selection, wherein the (motion) information of the first and second layers is distinguished/different.

Regarding claim 8, Watanabe discloses determining a set of segmentation parameters defining the segmentation process implemented for segmenting the first video frame into segments (col. 2, lines 10-22).

Regarding claim 13, Lainema et al teaches a computer program product for a data processing unit, comprising a set of instructions, which, when loaded into said data processing unit, causes the data processing unit to carry out a function of the claimed method (abs.).

Therefore, it would have been considered obvious to utilize Lainema et al's teaching as above so that the computer program product for a data processing unit, comprising a set of instructions, which, when loaded into said data processing unit, causes the data processing unit to carry out the method claimed in claim 1.

Regarding claim 16, Watanabe discloses compressed data corresponding to a video sequence (abs.).

Allowable Subject Matter

7.   Claim 7 is objected to as being dependent upon rejected base claim 1, but would be allowable:

if claim 7 is rewritten in independent form including all of the limitations of the base claim 1 and intervening claim 6.

Dependent claim 7 recites a novel feature including a step of setting a flag to a first or a second predetermined value indicating whether the motion parameters correction has to be used for the video information decompression.

The prior art of record fails to anticipate or make obvious the novel feature.

Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled/overcome, the application would be placed in condition for allowance.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn An* whose telephone number is (571) 272-7324.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Joseph Ustaris can be reached on (571) 272-7383.

9.   The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SHAWN AN/
Primary Examiner, Art Unit 2483